REPPERGER RESEARCH INTERN PROGRAM

RESEARCH PROJECT #: AFRL-RHW-23-06

Neuro-Symbolic AI for Robustness and Generalization

PROJECT DESCRIPTION: Neuro-symbolic AI methods show promise for developing AI systems that can adapt to new domains and resolves gaps in knowledge. On this project, we aim to research and develop AI prototype tools that will leverage state of the art neuro-symbolic methods to resolve knowledge gaps in large language models applied to novel tasks. Applicants should expect to engage in literature reviews on relevant topic areas and apply their skills by developing novel deep learning based natural language processing models to assist in building a prototype software tool or demonstration of capability.

ACADEMIC LEVEL: Bachelor's, Master's, PhD

DISCIPLINE NEEDED:

- Computer Science
- Computer Engineering / AI
- Cognitive Science
- Mathematics

RESEARCH LOCATION: Virtual or In-Person at Wright-Patterson Air Force Base, Dayton, Ohio

RESEARCH MENTOR: Sean Kennedy, MS
Computer Science, University of Cincinnati, 2019

Sean Kennedy is a Computer Scientist in the Airman Systems Directorate. Sean is interested in applying machine learning methods in the domains of human-AI collaboration and improving the robustness and generalizability of AI systems. Currently, Sean is leading the development of AI systems for human-AI collaborative mission planning and developing measures for assessing robustness and security of machine learning.
Photo courtesy of the U.S. Air Force Research Laboratory.